METHOD AND SYSTEM FOR OPERATING ONLINE
CLASSIFIED ADVERTISEMENTS

RELATED APPLICATIONS

This application claims priority from co-pending U.S. Patent Application 60/251,704 (Attorney Docket No. 45003-43USPL) filed December 6, 2000 and U.S. Patent Application No. 09/_____ (Attorney Docket No. 45003-45USPT), entitled "Content Operating system," filed November 13, 2001, which are incorporated herein by reference.

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BACKGROUND OF THE INVENTION

Technical Field of the Invention

The present invention relates generally to advertising, and

5   more specifically, but not by way of limitation, to an online

classified advertisement management and distribution system.

Description of Related Art

Many publications, such as newspapers and periodicals that

have classified advertisement sections utilize legacy or

10   proprietary classified advertisement systems for publishing

classified advertisements. The proprietary classified

advertisement systems basically operate as order entry systems

that publishers of the periodicals utilize to generate, format,

and price the advertisement text for a particular printed

15   periodical, such as a newspaper, for an advertiser. As

understood in the art, proprietary classified advertisement

systems are close ended in that the systems are not designed to

output to any output source other than the particular printed

periodical for which the system was originally designed. The

20   proprietary classified advertisement systems, generally, are

operated by employees of the periodical, and provide the

employee with pricing information so that the employee can

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inform the advertiser of the classified advertisement of a price for the classified advertisement. The price is typically based on format, number of lines, location, days of the week, duration of the advertisement, etc., for the particular periodical and

5 format thereof.

The proprietary classified advertisement systems are designed for a single input, single output configuration. In other words, classified advertisements are input by an order entry person and output is directed to the particular

10 periodical. While manufacturers of the proprietary classified advertisement systems have attempted to adapt the proprietary classified advertisement systems for external networks and electronic publishing, many difficulties have been encountered due to outdated implementations and undocumented maintenance of

15 the proprietary classified advertisement systems over the years. Furthermore, the few proprietary classified advertisement systems that have capability of posting classified advertising data to the Internet transmit the data from a flat-file feed of having proprietary codes associated with advertisement text,

20 manually parse and remove the proprietary codes, and apply a content markup language, such HTML. Performing such operation is time consuming and expensive for the publisher.

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While there exists conventional online types of classified advertisement systems or auction systems, such as Ebay, these systems are limited with regard to the input/output capabilities. For example, the output of these systems are limited to Internet publishing and searching of the classified advertisements and listings. The conventional online classified systems are unable to directly format the classified advertisements for multiple device types at the point of entry.

SUMMARY OF THE INVENTION

To overcome the problems of proprietary classified advertisement systems being limited to print distribution and online classified advertisement systems having limited input/output capability, an online classified advertisement system having the ability to interface with the proprietary classified systems and providing for multiple input/output capabilities has been developed. The online classified advertisement system provides for receiving advertisement data, such as text, from multiple input sources and provide access and/or distribute the classified advertisements to multiple distribution channels and devices. The online classified advertisement system, according to the principles of the present

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invention, provides for substantially simultaneously formatting and pricing the advertisement information for the multiple distribution channels and devices.

One embodiment according to the principles of the present invention includes a system and method for pricing a classified advertisement. The method includes receiving a classified advertisement from an advertiser to be distributed to at least one of multiple device types. The classified advertisement may be substantially simultaneously formatted for at least two of the device types. The classified advertisement may be displayed as formatted for presentation by the device type(s). A price may be determined and displayed for the classified advertisement as formatted for presentation by the device type(s).

BRIEF DESCRIPTION OF THE DRAWINGS

A more complete understanding of the method and apparatus of the present invention may be obtained by reference to the following Detailed Description when taken in conjunction with the accompanying Drawings wherein:

FIGURE 1 is an exemplary block diagram of a proprietary classified advertisement system in communication with an online

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classified advertisement system according to the principles of the present invention;

FIGURE 2 is an exemplary block diagram of a server for operating the online classified advertisement system of FIGURE 1 in communication with multiple distribution channels and devices;

FIGURE 3 is an exemplary order entry page for the online classified advertisement system of FIGURE 1;

FIGURE 4 is an exemplary flow diagram for operating the order entry page of FIGURE 3;

FIGURE 5 is an exemplary listing of a portion of a database for information entered into the online classified advertisement system of FIGURE 1;

FIGURE 6 is an exemplary data structure of objects for operating the online classified advertisement system of FIGURE 1;

FIGURE 7 is an exemplary flow chart for providing access to the classified advertisements stored in the database of FIGURE 5;

FIGURE 8 is an exemplary search page for searching the database(s) of FIGURE 3;

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FIGURE 9 is an exemplary listing of a search result from the database of FIGURE 5 utilizing the search page of FIGURE 8; and

FIGURES 10A and 10B are exemplary block diagrams of a
5   structure or content operating system for distribution of the content of the database of FIGURE 5 to the network and devices of FIGURE 2.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS OF THE INVENTION

The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art.

20   Proprietary classified advertisement systems are limited in that they are designed for single input/single output uses. In other words, the proprietary classified advertisement systems are utilized by newspapers and/or periodicals and are not

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adapted to be utilized for publishing classified advertisements across networks, such as the Internet, external of the publication of original design. Additionally, the proprietary classified advertisement systems utilize flat-file feeds of the

5   ad text having proprietary codes associated therewith, manually parse and remove the proprietary codes, and apply a content markup language, including HTML or other format, for listing the classified advertisements. Conventional online classified and/or auction systems, such as Ebay, too, are limited that they

10 are designed for single input (online) and single output (online).

With the advancement in technology, many different types of devices are available for distribution of data across many different channels or networks. Such devices may include mobile

15 phones, satellite phones, personal digital systems (PDA), and email devices, such as pagers. Many different protocols also exist for delivery of content to these devices. For example, the wireless application protocol (WAP) provides for devices to communicate to a network with data other than voice data. Other

20 protocols exist that different types of devices may utilize, including satellite and paging systems, for example.

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The principles of the present invention include an online classified advertising system that provides for multiple input and multiple output of classified advertisements. Advertisement text may be entered into one text box and substantially

5   simultaneously formatted and priced for multiple output device types and/or channels based on text. The classified advertisements may be stored as objects by utilizing objects for distribution, the advertiser and publisher may treat the distribution channels and output devices as a black box and be

10 accessed and/or distributed on multiple channels to multiple device types utilizing a content operating system.

FIGURE 1 is an exemplary block diagram 100 of a proprietary classified advertisement system 102 in communication with an online classified advertisement system 104 according to the

15 principles of the present invention. The proprietary classified advertisement system 102 used for receiving and entering classified advertisements for use in a printed publication, such as a newspaper, includes an order entry system 105 for receiving the classified advertisement information from a phone submission

20 106 or a fax submission 108. The classified advertisement information is entered by an employee operating the order entry system 105. As is understood in the art, the order entry system

105 operates to format and paginate the classified advertisement text for the particular publication that the order entry system 105 is designed. In other words, the order entry system 105 performs a single formatting function and is limited to

5　formatting for the particular publication.

The online classified advertisement system 104 according to the principles of the present invention may receive the classified advertisement from the proprietary classified system 102 and an online submission at 110. The online submission 110

10　may include receiving information for the classified advertisement from a variety of devices and distribution channels. For example, the devices may include personal computers (PC), web-enabled mobile phones, personal digital assistants (PDA), and voice activated systems. The online

15　submission 110 may be communicated across at least one network 112, where the network(s) may include the Internet, wireless application protocol networks, satellite networks, and (wireless) ethernet.

A composition engine 114 may receive the classified

20　advertisement information from the online advertisement system 104 and the proprietary classified advertisement system 102. The composition engine may substantially format and display the

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advertisement for multiple devices. As will be further explained herein below, the formatting of the classified advertisement text may be different for different devices. For example, the format of the ad text for a PC is different than

5   for a web-enabled mobile phone due to screen size and display capability differences.

A pricing engine 116 may be utilized to price the classified advertisement for publication on the different devices. The result of the pricing engine may be returned to

10 the device performing the online submission 110 and the order entry system 105 so that the advertiser may be presented the price for providing accessibility to the classified advertisement for the different output devices.

A scheduling engine 118 may be utilized in conjunction with

15 the pricing engine for receiving and determining a schedule for the classified advertisement. The pricing engine may utilize the schedule received by the advertiser for pricing the classified advertisement for the distribution channel and devices. The pricing engine may further compute a total price

20 for the classified advertisement based on the format (e.g., number of lines) and schedule for the classified advertisement. At 120, the classified advertisement may be saved to a database

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122 located in a storage device 124 operated by a server 126.
It should be understood that the composition engine 114, pricing
engine 116, and scheduling engine 118, and save process 120 may
be executed by the server 126 or, alternatively, be executed in
5   another server (not shown) operating on the network 112.   In
another embodiment, the engines 114-120 may be executed on the
devices for performing the online submission of 110.

On the distribution side, a user system 128, such as a PC
or mobile phone, may be utilized to perform a search of the
10   classified advertisement information stored in the database 122.
Alternatively, a print pagination system 130 that may or may not
be part of the proprietary classified advertisement system 102
may perform a search of the database 122 for printing the
classified advertisement in a publication.   The user 128 and
15   print 130 systems may perform a query or search at 132 for the
output device 128 or print publication system 130.   In
performing the search at 132, the device type is determined at
134 so that the database 122 may be properly searched for
classified advertisements that have been formatted for the
20   device type being operated by a user and scheduled for that time
period.   The results of the search of the database 122 are
returned at 136 to the user 128 or print system 120.

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FIGURE 2 is an exemplary block diagram 200 of a server for operating the online classified advertisement system of FIGURE 1 in communication with multiple distribution channels and devices. As shown, the proprietary classified advertisement

5 system 102 is coupled to the server 126 operating the classified advertisement system 104 via the translation engine 115. The server 126 includes a processor 202 coupled to a memory 204, I/O unit 206 and storage device 124. The database 122 may include more than one database 122a and 122b for storing the data in

10 various relational manners. The server 126 is coupled to at least one network 112, such as the Internet, which may further be coupled to a satellite server 208, cellular network 210, and network server 212.

The satellite server 208 is coupled to an antenna 214 to communicate with a satellite 216. The satellite relays signals to the antenna 214 to subscribers 216a and 216b. The cellular network 210 includes a cellular infrastructure (not shown), such as base stations (not shown) and antennas 218 for communicating with subscribers 220a and 220b of the wireless network 210. The

20 network server 212 may be any server operable to service subscribers 222a and 222b of the network 112.

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In operation, the processor 202 executes at least one software program 224 operates the online classified advertising system. The software program may interface with a database software program, such as Oracle™, to receive and store the classified advertisement information or data. The software program may include the composition engine 114, pricing engine 116, and scheduling engine 118, for example, to provide users of the online classified advertisement system to input the classified advertisement information into the system and receive pricing information based on the scheduled times and format of the classified advertisement. As understood in the art, PCs 226a-226n coupled to the server 126 may communicate with the server to utilize the online classified advertisement system for entering the classified advertisement information. Alternatively, the classified advertisement information may be received from subscribers (e.g., 220a and 222a) operating on the network 112.

The classified advertisement data may be stored in the database 122 in an object oriented format. The server 126 provides for the subscribers to review and search the classified information stored in the database 122. As understood in the art, communication between the server 126 and the subscribers is

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performed utilizing data packets 228. The translation engine 137 may convert the data being communicated from the server 126 to any channel (e.g., satellite) communicating with the server 126 using rules associated with distribution channels and/or

5 output devices. Alternatively, the classified advertisement information stored in the database 122 may be communicated to another location, such as the network server 212, located on the network 122 for subscribers 222 to search and view. The distribution aspect of the online classified advertisement

10 system 104 is further discussed herein with regard to FIGURES 10A and 10B.

FIGURE 3 is an exemplary order entry page 300 for entering a classified advertisement into the online classified advertisement system 104. The order entry page 300 includes advertiser information 302, such as name, address, and phone

15 number, and payment information 304, such as payment type, credit card number, and credit card expiration date. Further included may be an advertisement classification 306, which may include "super" classifications and "sub" classifications for

20 selection via a radio button or other selection soft-tool, such as a pull-down menu. As shown, a radio button 308 is selected for "Automobile". By selecting the automobile super-

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classification, sub-classifications of automobiles appears in a scroll menu 310 in which an "OLDSMOBILE" item 312 is selected. By selecting the OLDSMOBILE item 312, the online classified advertisement system 104 is directed to place the classified

5   advertisement.

The order entry page 300 further includes an advertisement period 314, such as a start and stop date. Alternatively, the advertisement period 314 may include a start date and a selectable number of days extending therefrom. Another

10   embodiment may include weekends only, Sundays only, or any other combination of weekdays and weekends. A text box 316 may be included to provide the advertiser with additional comments or instructions for the operator of the online classified advertisement system 104.

15   An advertisement text section 318 of the order entry page 300 operates to receive and display formatted text of the advertisement. A text box 320a may be utilized by the operator to enter advertising (ad) text 322 of the advertisement. Multiple other text boxes 320b-320e may be included to

20   substantially simultaneously display the ad text 322 in a format for selectable output devices that the classified advertisement may be displayed. As shown, text box 320b is formatted for a

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newspaper, text box 320c is formatted for a PC, text box 320d is formatted for a PDA, and text box 320e is formatted for a mobile phone. Each of the text boxes 320b-320e are sized for an approximate display size of the different devices.

5   Alternatively, it should be understood that the advertisement text section 318 may be located on a separate order entry page 300 and that the text boxes 320b-320e are not necessarily updated real-time. In another embodiment, the text box 320a is not included, and that the ad text 322 is entered into one of the other text boxes 320b-320e. However, by utilizing the text box 320a, the ad text 322 in each of the text boxes 320b-320e may be individually edited and formatted. For example, the ad text 322 in the text box 320b for the newspaper may have particular words bolded while allowing ad text 322 for the mobile phone to remain regular font.

Each of the text boxes 320b-320e has an associated price box 324b-324e in which the price for the classified advertisement is listed. The price for each of the classified advertisements is determined based on a number of factors, including number of lines, font, output device, etc. as understood in the art. A total price 326 may be computed based on output devices selected by the user using software selectors

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328a and 328b. As shown, the total price $28.40 is computed by adding the price for running the classified advertisement for providing access to PC and mobile phones multiplied by the number of days for the classified advertisement to run (i.e.,

5 four days) ($2.85 + $4.25 = $7.10 * 4 = $28.40). By substantially simultaneously formatting the ad text 322 for the different classified output devices, the advertiser may determine different options and distribution channels for which to run the classified advertisement. As technology continues to

10 develop, output devices may be added to the advertisement text section.

FIGURE 4 is an exemplary flow diagram 400 for operating the order entry screen 300. The process starts at step 402. At step 404, information for the classified advertisement is

15 received from the advertiser. The information generally includes the ad text 322, but may additionally include a graphic, such as a photograph or line art. At step 406, the classified advertisement (e.g., ad text 322) may be substantially simultaneously formatted for multiple output

20 device types. At step 408, the classified advertisements may be substantially simultaneously displayed as formatted for the multiple device types. Alternatively, the classified

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advertisements may be displayed only for the selected output

devices. Yet another embodiment may include displaying the

classified advertisements on different screens. Price(s) for

the formatted classified advertisements are determined at step

5 410 and displayed at step 412. The price(s) may be displayed

for all or just the selected output devices for which to provide

access to the classified advertisement. The total price for the

classified advertisement may be additionally computed and

displayed. The process ends at step 414.

10 FIGURE 5 is an exemplary listing of a portion of the

database 122 for information entered into the online classified

advertisement system 104. The database may include a listing

number 502 for the advertiser 504. The advertiser's address 506

may additionally be included. The selected advertisement super-

15 classification and sub-classifications 508 or a code (e.g., A34)

indicative thereof may be included. A price 510, start date

512, and end date 514 also may be included. The selected

distribution device type 516, such as PC or MP (i.e., mobile

phone), may be included along with a distribution channel or

20 network 518, which may be selected, if provided on the order

entry page 300, by the advertiser or automatically determined by

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the online classified advertisement system 104 based on the selected output device.

An ad text field 520 may include content markup language indicators that provide for the formatting of the ad text 322. As shown the ad text 322b includes descriptors (e.g., <bold> and </bold>) to indicate special formatting for the ad text to be accessible to a PC operating on the Internet. Various types of content markup languages, such as hypertext markup language (HTML), extensible markup language (XML), and wireless markup language (WML), may be utilized based on the selected output devices and distribution channels. Different records and/or objects may be utilized to store the classified advertisement orders by an advertiser based on the selected output devices and/or channels. It should be understood that other relational database configurations may be utilized so that the advertisements are stored as a single record as understood in the art. Further, it should be understood that the data may be stored in an object oriented or other suitable format.

FIGURE 6 is an exemplary data structure 602 including objects for operating the online classified advertisement system 104. A text object 602 may be utilized to display the ad text 322 for the classified advertisement. The text object 602 may

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be associated and/or linked with objects for handling format, schedule, and pricing for the classified advertisement.

A format object 604 may be utilized to handle formatting the ad text 322. The format object may receive the ad text 322 as entered, determine the number of characters entered, and automatically add a carriage return (e.g., <CR>) or end-of-line indicator to the ad text 322. Other formatting as understood in the art may be applied to the ad text 322. Additionally, the format object may format the ad text 322 for the different distribution channels and devices. For example, text and graphics may include HTML tags for PC. Text for a PDA may include HTML tags, text for a mobile phone may include WML tags, and print may include line spacing, column width, text kerning, font type, and font size.

A schedule object 606 may be utilized to handle scheduling the classified advertisement. The scheduling object 606 may receive the start and stop dates and actively schedule the classified advertisement with a scheduler (not shown) to provide access to the classified advertisement by the selected output devices.

A pricing object 608 may be utilized to determine and post a price for each of the output devices and/or distribution

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channels.   The pricing object 608 may operate in real-time or
semi-real-time so that the price for each of the classified
advertisements may be posted on the order entry page 300.   As
understood in the art, pricing of classified advertisements may
5   become very complicated depending on the formatting, scheduling,
distribution, and classifications, for example, desired by the
advertiser.   For example, for a PC, price per instance, duration
of the advertisement, and additional charges for links and
graphics may be computed.   For a PDA, price per instance and
10   duration of the advertisement may be computed.   For a mobile
phone, price per instance, duration of the advertisement, and
additional charges for links and graphics may be computed.   For
print media, price per instance, duration, placement of the
advertisement, and additional charges for graphics, design,
15   links, etc., may be computed.   The pricing object 608 may access
a pricing table (not shown), which may be maintained in a
separate database.

FIGURE 7 is an exemplary flow chart 700 for providing
access to the classified advertisements to at least one of
20   multiple device types stored in the database 500.   The process,
which may be executed by a software program executed by the
processor 202 (FIG. 2), starts at step 702.   At step 704, a

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schedule for listing or providing access to the classified

advertisement is received. At step 706, a selection of the

device type(s) to have access to the classified advertisement

may be received. At step 708, access to the classified

5   advertisement to the device type(s) based on the schedule is

provided. Access to the classified advertisement may include

setting a flag in the database or determining that a current

date is within a date range for which the classified

advertisement is to be accessible by the device type(s), such as

10   a mobile telephone. In providing accessibility to the

classified advertisement, the classified advertisement, possibly

in the form of an object, may be distributed to a different

database, network location, or website.

FIGURE 8 is an exemplary search page 800 for searching the

15   database 322. The search page 800 is one from a PC accessing

the database 322 on the Internet. As shown, the search page 800

provides a selection box 802 having selectable sub-categories

804a-804h. The "Acura" sub-category 804a is highlighted,

indicating that Acura automobiles are to be searched.

20   Additionally, a search text box 806 may be included for

performing searches with specific search terms as understood in

the art. Date selectors 808 may be provided to allow a user to

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search for listed advertisements on one or more date. Other links 810a and 810b related or unrelated to classified advertisements may be included in the search page 800.

FIGURE 9 is an exemplary listing of a search result from the database of FIGURE 5 utilizing the search page 800. Three classified advertisements 902a-902c meeting the search requirement (i.e., Acura Integra) are distributed to the device (e.g., PC) from which the search was performed. The classified advertisements 902a-902c may be communicated as objects from the server 126 via the network 112.

FIGURES 10A and 10B are exemplary block diagrams of a structure or content operating system 100a and 100b for distribution of the classified advertisements of the database 500 to the network 112 and devices (e.g., 220a). Various aspects of the system have been separated into distinct objects, including: (i) content objects 1005a-1005e (collectively 105) (ii) rule objects 1010a-1010e (collectively 1010), (iii) container objects 1015a-1015e (collectively 1015), and channel objects 1020a-1020e (collectively 1020). As shown, the content object 1005c may be a classified advertisement having ad text 322 and/or image data (e.g., photograph) produced by an advertiser, which may be an individual or commercial enterprise.

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The content object 1005c may be produced by the classified advertisement provider without regard to a particular channel or output device. Generally, however, the content object 1005c is developed for a distribution channel and terminal having the highest bandwidth and resolution, respectively, as data is more easily removed than added from an image.

Rule objects 1010, which provide the rules that the content objects are subject to, may be utilized to prepare or alter the content objects 1005 based on the particular channel and/or output device for which the content object 1005 is destined. For example, if a content object 1005 containing a classified advertisement is distributed to a personal computer via the web, the content object 1005 follows a web rule for channel distribution and a personal computer rule for display. Or, if a content object 1005 containing a photograph is sent to an e-mail address, the content object 1005 follows an e-mail rule for a distribution channel and a personal computer rule for a terminal display.

A container object 1015, which may be considered a content object container, may be an object version of what are sometimes called templates. To follow the previous example, if a content object 1005c is composed of text, the rule object 1010b having

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web rules is followed. The rule object 1010b may know which content container object 1015b to call to make it look like a particular publisher's environment (e.g., Morning News page). In other words, the rule object 1010b knows what the rules are for

5   the channel and terminal (i.e., output device) to which the content object 1005c is to be displayed. Additionally, the rule object 1010b knows into which display container 1015b that the content object 1005c is to flow. It should be understood that the rules for a wireless network distribution channel to a

10 mobile phone or pager terminal are different than those for the Internet to a personal computer.

The channel object 1020 may be a channel or a way of sending the content object 1005c via a container object 1015b to whatever channel 1025b the content object is destined - whether

15 that channel 1025 be WAP 1025a, web 1025b, e-mail 1025c, print 1025d, or video 1025e, for example. It should be understood that other channels 1025 may be utilized or that new channels may be added. While the structure shown is linear (i.e., one rule 1010, container 1015, and channel 1020 object per channel),

20 it should further be understood that there may be many rule objects 1010 per channel 1025 and provided in a variety of different configurations. Whether a database (not shown) or an

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independent object oriented system is utilized for storing the data published and maintained by the online classified advertisement system 104, the basic concept according to the principles of the present invention is that a separate content

5 object for each classified advertisement may exist. Alternatively, multiple pieces of associated classified advertisements (e.g., same advertisement selected to be accessible to multiple output devices) may be included in a single content object 1005.

Pragmatically, once the classified advertisement is edited,

10 the rule objects 1010 allow different distribution of that classified advertisement without having to hand-edit each content object 105 for different distribution channels and/or terminals. If, for example, the advertiser says, "Okay, I'm going to provide access to this advertisement for personal

15 computers.", the access and distribution of the classified advertisement happens automatically by formatting the classified advertisement in the form of a content object 105c, transmitting the content object to the appropriate rule object 110b, applying

20 the appropriate container object 115b, and communicating the packaged content object 105c via the channel object 120b to the web channel 125b. The web rule 110b knows what container object

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115b is needed for any particular website utilizing the web rules. Utilizing objects allows the publisher to distribute the classified advertisements in non-flat file formats, thereby substantially reducing or eliminating processing time be

5   advertisement editors.

The distribution aspect and operation of the content operating systems 1000a and 1000b may be as automatic as the rule objects 110 may be defined. For example, if a change to the "look" of a distribution medium is necessary (e.g., if a web

10 publisher's template is to change), the rule object 1010 and/or container object 1015 simply needs to change accordingly. The advertiser and publisher of the classified advertisement does not have to know anything external to the creation of the content object 1005, and the advertiser and publisher may

15 continue to publish the classified advertisement as before. Accordingly, the classified advertisement continues to be properly distributed. Essentially, the distribution of the classified advertisement operates as a "black box" from the advertiser and publisher's point-of-view.

20 In one embodiment, an advertisement containing a video clip may be requested by and destined for a hand-held device, such as a PDA. One rule object 1010 may include a rule, "streaming

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video onto a cellular channel to be viewed by PDA devices requires a reduction of the video from X frames and Y pixels/inch to be X' frames and Y' pixels/inch". The rule may be applied in a number of different ways as understood in the

5   art. The rule object 1010 may further contain a whole set of rules for the kind of presentation terminal that the content object 1005 ultimately is displayed. Another rule object 1010 may contain a set of rules for a video channel, such as high-definition television (HDTV), that requires high resolution and

10   high frame rates. The bottom line is that the rule objects 1010 may define the processes for which the content objects 1015 are subject to in order to properly distribute and present the classified advertisement contained in the content object 1005.

The container object 1015 may include a set of display or

15   presentation rules or processes for a particular channel 1025. For example, a container object 1015b for the web may contain a set of extensible stylesheet language (XSL) or hypertext markup language (HTML) templates, as understood in the art, so that advertisements, for example, and other components may be pieced

20   together by the rules based on the particular set of rules. Whether the set of rules are for the publisher's readership or a another publisher, because each of these templates are kept in a

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separate set of container objects 1015, the classified advertisement itself need not be re-edited for each readership as each template is predetermined. Additionally, for any distribution channel (e.g., website, e-mail, WAP, print, etc.)

5   the same classified advertisement may be sent using different rule sets and be properly distributed to a particular distribution channel 1025.

The channel object 1020 may be basically a way of hooking together the database or system on the content production side

10 to the output or distribution system (e.g., HTTP engine, SMTP engine, WML to WAP channel). It should be understood that the channel object 1020 may include hardware and/or software for processing and distributing the content as understood in the art.

15 FIGURE 10B is another exemplary embodiment of a content operating system 1000b having a different architecture from the content operating system 1000a. While the results of the different architectures may be substantially the same, the architecture of the content operating system 1000b allows for a

20 more distributed architecture. As shown, the content objects 1005 may be the same and the rule objects 1010 may be the same. However, standard high-end object services are included that

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content management systems generally do not include. In particular, content management systems generally make use of present distribution standards to negotiate for entry into the network processing. Object brokers 1030a-1030e (collectively

5 1030) for directory lookup services 1035 may be part of common object request broker architecture (CORBA), Genie, or other known object technologies. The object broker 1030 may negotiate between a client (not shown) and a distribution object 1040a-1040e (collectively 1040) - an abstraction layer that allows a

10 WAP phone or an e-mail client to talk to a set of objects without having to know the rules for the objects.

A CORBA point may be initially set up and the objects (e.g., content 1005, rule 1010, container 1015, etc.) may be CORBA compliant. The client should be CORBA compliant so that

15 the CORBA objects basically negotiate between the client and the objects. The directory lookup service 1035 may operate as a self-negotiating object architecture, which basically dictates that in a self-negotiating object network, a directory exists where objects are self-registered. For example, a rule object

20 1010a may make itself known to the directory look-up service 1035, which then allows clients to request the rule object 1010a for processing a content object 1005. The directory simply has

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a list of objects that exist and are currently operating. The directory lookup service 1035 may provide for a distributed network of objects available to perform processing in a dynamic manner based on availability of resources operating the objects.

5   It should be understood that the directory lookup services may be centrally located or distributed to handle requests from clients and object brokers 1030 to process and distribute the content objects 1005 over a variety of different distribution channels to a variety of output devices.

10   The previous description is of a preferred embodiment for implementing the invention, and the scope of the invention should not necessarily be limited by this description. The scope of the present invention is instead defined by the following claims.

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